In the Claims:

Please amend the claims as follows:

1. (currently amended) ~~Method~~ A method for optimizing measurement and control of the flatness of a strip of rolled material, ~~characterized by,~~ the method comprising:

creating a set of reference strip models for known flatness fault types,

creating a set of space conversion matrices, which are known to correct the known flatness fault types by optimally qualifying actuator ~~behaviour~~ behavior during flatness control for the given flatness error type,

visualizing the strip,

determining the relevant flatness fault type by comparing the visualization to one or more reference strip models,

fusion or morphing the visual picture with the measured information,

choosing an associated actuator space conversion matrix, and

optimizing the control with the space conversion matrix.

2. (currently amended) ~~Method~~ The method according to claim 1, ~~characterized by, that~~ further comprising:

making a mapping ~~is made~~ between measurement and control ~~and done~~ by associating to relevant flatness fault types a reference strip model and an actuator space conversion matrix.

3. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims,~~

~~characterized by, that~~ claim 1, further comprising:

making an enhanced mapping ~~is made~~ between measurement and control by an actuator correction algorithm using morphed information.

4. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

mapping each reference strip model to its corresponding vector space conversion matrix according to the flatness fault type.

5. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

selecting a reference strip model by comparing available reference strip models with the actual strip.

6. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

enhancing the measured data by interpolating the reference model with measured flatness data~~, i.e. by using morphing~~.

7. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

converting actual strip to the visualization format used for reference strip models.

8. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

having visual access to the strip by an operator.

9. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

comparing reference strip models with actual strip visualization format.

10. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

manually tuning the automatic comparison

11. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

synchronizing measured data with video samples and withthe currently performed optimization algorithm.

12. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

using a morphing technique.

13. (currently amended) ~~Method~~ The method according to ~~any of the preceding claims characterized by,~~ claim 1, further comprising:

adding the result of the mapping by morphing to the measured information from a reference model.

14. (currently amended) ~~Device~~ A device for optimizing measurement and control of the flatness of a strip of rolled material, ~~characterized by,~~ the device comprising:

means for creating a set of reference strip models for known flatness fault types,

means for creating a set of space conversion matrices, which are known to correct the known flatness fault types by optimally qualifying actuator ~~behaviour~~ behavior during flatness control for the given flatness error type,

means for visualizing the strip,

means for determining the relevant flatness fault type by comparing visualization to one or more reference strip models,

means for fusion or morphing the visual picture with the measured information,

means for choosing an associated actuator apace conversion matrix, and

means for optimizing the control with the space conversion matrix.

15. (currently amended) ~~Device~~ The device according to claim 14, ~~characterized by,~~ further comprising:

means for accomplishing a mapping by associating to relevant flatness fault types a reference strip model and an actuator space conversion matrix.

16. (currently amended) ~~Device~~ according to claim 14, further comprising: ~~or 15, characterized by, having~~

means for making the mapping between measurement and control.

17. (currently amended) ~~Device~~ according to claim ~~14-16, characterized by, having~~ 14, further comprising:

means for making the mapping between measurement and control by an actuator correction algorithm.

18. (currently amended) ~~Device~~ according to claim 14, further comprising: ~~any of the claims 14-17, characterized by,~~

means for mapping each reference strip model to its corresponding vector space conversion matrix according to the flatness fault type.

19. (currently amended) A computer program product, comprising:

a computer readable medium; and

computer program code means recorded on the computer readable medium and executable by a processor for carrying out the steps of ~~a method according to claims 1-13~~

creating a set of reference strip models for known flatness fault types,

creating a set of space conversion matrices, which are known to correct the known flatness fault types by optimally qualifying actuator behavior during flatness control for the given flatness error type,

visualizing the strip,

determining the relevant flatness fault type by comparing the visualization to one or more reference strip models,

fusion or morphing the visual picture with the measured information,

choosing an associated actuator space conversion matrix, and

optimizing the control with the space conversion matrix.

20. (cancelled)

21. (currently amended) ~~A~~ The computer program, according to claim 19, wherein the computer program code means is for carry out the further step of ~~that is,~~ at least ~~partially, provided~~ partially providing the computer program through a network~~, such as e.g. internet~~.

22. (new) The computer program, according to claim 19, wherein the computer program code means is for carry out the further step of at least partially providing the computer program through the internet.

23. (new) The method according to claim 6, wherein the measured data is enhanced by using morphing.